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CLASSROOM METHODS AND DEVICES

Articles reporting concrete classroom exercises are very difficult to collect. From time to time the editors of the *Journal* have sought material of this type. They usually find themselves checked in their effort by the desire which seems to possess most people to discuss school problems in a broad, theoretical way. If a teacher has a good method of teaching nature-study or long division, he commonly feels the impulse to explain the theory of his practice and leave the reader to guess at most of the details of actual classroom work. The *Journal* hopes that it will be possible to overcome in some measure this impulse toward theory. The editors will make an earnest endeavor to get statements both of practice and of the fundamental principles which underlie practice. Materials that are available for classroom work and are to be classified under the general head of methods and devices will, therefore, be very welcome. But in each case these methods and devices should be accompanied by some statement which will make clear what is the aim of instruction.

How to Study

The difficulty which children experience in learning their lessons is very often due not so much to the subject-matter on which they are at work as to their inability to get at the meaning of what they read. My attention was drawn to this fact in connection with the geography work of the fifth grade. The weekly schedule provided six thirty-minute periods—four recitation periods and two study periods. During the recitation periods the class co-operated well, but the results from the study periods were very unsatisfactory. An analysis of the situation showed some of the difficulties to be: (1) a decided slowness in the rate of silent reading; (2) inability to select the essential and to disregard the unessential data in an assignment; (3) lack of facility in making proper use of table of contents, index, appendix, maps, etc., and (4) inability to organize data upon a single topic.

In short, the group had to be taught how to study. The whole organization of the class was accordingly turned to meet this need. The study periods for a few weeks were used for purposes calling for little initiative, but a high degree of precision, such as making maps, drawings, and written summaries of phases of the problems worked out by the class as a whole. The regular recitation periods were turned into "study" recitations with a view to training the children under supervision to study properly. The text was read silently, a paragraph at a time. At first the reading was made definite by requiring the children to find the answer to specific questions.

It was noted at once that the rate of reading varied considerably. Furthermore, it was noted that the fastest readers grasped the thought of the paragraph more frequently than the slower ones. The latter constantly pleaded for oral reading, saying, "We can understand it better." The slow readers were stimulated to read more rapidly. By gradually decreasing the time allowed, the slow readers were helped to increase their speed and with it their ability to get the thought.

Ability to organize material was cultivated as follows: At the beginning of the lesson the main topic of the problem being considered was placed on the board. As each paragraph was studied and discussed the results were summarized and placed as subtopics under the main topic. For further training in arrangement of materials the tables of contents and the indexes of various supplementary readers were critically studied.

Training was also given in the collection of new material. Newspaper clippings and magazine articles served to elaborate or explain or illustrate topics inadequately treated in the text. In using this latter type of material it was not always possible to have duplicate copies, but by giving out different articles upon the same general topic the pupils reading silently were forced to study independently each paragraph and then asked to state to the class what the clipping contributed to the problem under discussion. This information was discussed and sometimes questioned by the other members of the class. If after re-reading the passage the pupil still made the same interpretation, the passage was read aloud.

Not infrequently at such times it was found that the dictionary was needed as the court of last resort. Occasionally inaccuracies were found and many facts in supplementary readers were found to be out of date.

As the class gained in ability to study independently, the study periods were used for gathering information and the recitation periods became more and more a time for bringing together ideas for comparison, correction, and organization into a final solution of the problems relating to the study.

KATHARINE McLAUGHLIN

UNIVERSITY ELEMENTARY SCHOOL

ON PREPARING TO WRITE A LETTER

Maria intended a letter to write,
  But could not begin (as she thought) to indite,
So went to her mother with pencil and slate
  Containing "Dear Sister," and also a date.

"With nothing to say, my dear girl, do not think
  Of wasting your time over paper and ink;
But certainly this is an excellent way,
  To try with your slate to find something to say.

"I will give you a rule," said her mother, "my dear,
  Just think for a moment your sister is here,
And what would you tell her? Consider, and then,
  Though silent your tongue, you can speak with your pen."

ELIZABETH TURNER
(*English Book for Children*)

FORMAL LANGUAGE TRAINING IN THE PRIMARY GRADES

It is not difficult to get teachers to admit that forms of language are important; that they should be fixed in the pupil's mind and habits as early as is possible; but the questions with most teachers are: What forms shall be fixed? How can the end desired be attained?

The answer to the first question can be found in local conditions. An investigation held in a western city a few years ago revealed the following facts: Practically one-half of the errors of speech were those of verb-forms; one-half of the verb-form errors arose from confusing past tense and perfect participle; about one-fifth of the errors were due to misuse of pronouns; double negatives, adverbial errors, and even colloquialisms were relatively inconspicuous in the sum total of errors. Why one class of errors should be so pronouncedly greater in number than the other class is evident when we reflect upon the constant use we make of the one class of words. Could not a teacher, however, in order to satisfy herself respecting the right use of the pupils' time, make just such a classified list of errors among her pupils; could she not quickly discover whether it is the verb-form or the colloquialism that is most stubborn, and could she not decide which verb-form or which colloquialism she should most vigorously attack? No teacher can take a list of general errors made out for another locality and do the most effective work. A special study of her own field not only informs her at what she should aim, but it also assists her to do the aiming. Success here, as elsewhere, demands its price.

When the errors have been discovered the question arises, What method can be adopted to overcome these errors? Doubtless there are many devices which could be employed. One device which has proved very successful is the language game. In it the child is wholly unconscious of the ultimate aim of the teacher, though fully aware of the fact that a certain form must be used in order that the game be won. The teacher, however, is more successful with results than if she were to explain her intentions. She secures the functioning of language at the time when it is needed. The drill is not isolated; it is interesting on account of the activity; repetition is called forth by a natural situation, and the desired expression is in the focus of attention.

GAMES AND EXERCISES FOR USING VERB-FORMS CORRECTLY

WHAT I SAW

Leader stands in front of room and calls child's name. Class says, "Go to the window and you will see while we are counting, 'one, two, three.'" Child goes to the window, looks out, then turns and names things, e.g., "I saw a house, some pretty trees, and a man."

Should the incorrect form be used, the leader says, "Wrong," and calls another child to the window. The game is varied by, "Tell what you see," or "Tell what you have seen."

WHAT HE DID

Leader calls child's name and says, "Do three things." The child obeys. Leader says, "What did John do, Mary?" Mary answers, "John jumped, hopped, and ran."

WHO DID IT?

Leader says, "Follow me, John." John does as leader says. The leader says to third child, "Who did it?" [Who is doing it, or has done it?] Third child answers, "You and John did it." [Are doing it, or have done it.] Third child follows John, the new leader, who performs another act. Leader asks fourth child, "Who did it?" [Varied.] Fourth child answers, "You, John, and — did it." [Varied.]

The game continues by each child who answers correctly joining the procession and following the leaders. The "you" must be put in the right place, the children must be named in the order of their standing in line, the proper verb-form must be used, and the "and" must be used correctly before the child is entitled to join the procession. Naturally this answer must be given very quickly, else the march will seem to be more of a funeral than a game.

The foregoing devices may suggest others for the forms of "to go, "to be," "to have," "to come," "to give," "to take," "to throw," "to ride," "to ring," "to sing," "to choose," "to freeze," which seem to be the most troublesome verbs.

MAY

Children are told to think of any animal which they may wish to represent.
First child: "May I be a bird?"
Leader: "You may." [Child flies around the room.]
Second child: "May I be a frog?"
Leader: "You may." [Child hops.]
All of the children are finally engaged in some action.
Leader: "You may all be children." [Seats.]

CAN

This game is played as the previous ones, only child asks, "Can I be a frog," "bird," etc., and leader answers, "We shall see if you can," etc.; "We shall see if we can all be children." [Seats.]

GAMES AND EXERCISES FOR USING PRONOUNS CORRECTLY

YOU AND I SHALL DANCE TOGETHER

Children in a circle. Leader in the center goes up to child and bows. They both say, "You and I shall dance together." They dance around circle with piano accompaniment, after which each one goes up to another child and says, "Dance with him [her] and me." All four then say, "You and I shall dance together." Choices are made until all of the children are dancing.

WORDS IN SERIES

Leader: "Tell three things that you can do, and do them."

Child: "I can mark on the blackboard, run around the room, and sing." [Child does the three things.]

Leader: "Name three things in the front of this room." [Chair, picture, *and* chalk tray.]

Leader: "I am thinking of something in this room that is long and light brown. You may guess three things." [Is it the piano, the window shade, *or* the window stick?]

Leader: "Name as many things as you can think of. Use 'and' before the last one." This may be turned into a contest.

DESCRIPTION. ADJECTIVES IN SERIES

Teacher holds up picture of fruit or vegetable (though the real thing is preferable). One child uses an adjective to describe it, e.g., "That apple is red." Another child takes it up and adds another word to describe it, e.g., "That apple is red and round." The game stops when some child fails to find a descriptive word. The sentence which has "and" incorrectly used is not counted in the game.

The games should, of course, be quick and full of life. Those who are slow in responding or who respond incorrectly should be penalized by being made to wait for another turn. These illustrations will serve only as suggestions, not as cut-and-dried devices.

Before leaving the subject of formal language work, however, it is impossible to forego making other suggestions, more specific in their application.

1. Make a list of errors of speech common among the pupils. Add to it as incorrect forms appear.
2. Concentrate upon certain types of errors until they are fairly well corrected.
3. When working with difficult forms, allow several sentences containing the correct form to remain upon the board, e.g., "The little boy doesn't need a sweater" [*doesn't*].
4. Do not display the incorrect forms to the children.
5. In fixing correct forms, have some studied and some unstudied dictations.
6. Have children repeat the dictated sentences, sometimes singly and sometimes in concert.
7. Remember that writing the correct form does not fix the speaking habit.

8. Be systematic in planning oral exercises to overcome faults on the list.
9. Make the exercises short and lively—about five minutes in length.

Mattie Louise Hatcher

Kentucky State Normal School
Bowling Green

Rational Practice in Writing

It is a matter of common observation in the teaching of writing that the greatest retarding factors are (1) irrational practice, (2) the absence of a critical standard on the part of both teacher and pupils, and (3) the monotony that inevitably arises in connection with routine work. The following analysis of the common defects of writing and their respective causes is an attempt to apply some of the principles of the psychology of practice to the problems of writing. By being taught to recognize the defects of writing and to discover the causes, the pupil develops a critical standard for judging his own work and that of other members of his class, and he becomes interested in his progress, for he can understand why he is or is not succeeding. As a result monotony is minimized, because practice becomes a rational process.

DEFECT	CAUSE
Too much slant	1. Writing arm too near the body.
	2. Thumb too stiff.
	3. Point of nib too far from fingers.
	4. Paper in wrong position.
	5. Stroke in wrong direction.
Writing too straight	1. Arm too far from body.
	2. Fingers too near nib.
	3. Index finger alone guiding pen.
	4. Incorrect position of paper.
Writing too heavy	1. Index finger pressing too heavily.
	2. Using worn pen.
	3. Penholder of small diameter.
Writing too light	1. Pen held too obliquely or too straight.
	2. Eyelet of pen turned to side.
	3. Penholder of too large diameter.
Writing too angular	1. Thumb too stiff.
	2. Penholder too lightly held.
	3. Movement too slow.

DEFECT	CAUSE
Writing too irregular	1. Lack of freedom of movement. 2. Movement of hand too slow. 3. Pen-gripping. 4. Incorrect or uncomfortable position.
Spacing too wide	1. Pen progresses too fast to right. 2. Too much lateral motion.

W. C. Reavis

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A Map of the United States

In 1904, when visiting the World's Exposition at St. Louis, I was very much interested in a miniature exhibit of the irrigated gardens of the West. People generally are attracted to large things worked out on a small scale. At any rate, the beautifully laid-out fields and gardens growing in actual soil, showing the irrigation ditches, made such an impression on my mind that some years afterward, in searching for a way to present a study of the United States to a sixth grade in the public schools, the thought came to me, why not plan the United States as I had seen the irrigated western lands depicted? I did so, and the method worked out very successfully. I had in mind a general purpose, but having then had very little experience in teaching, I was not able to develop it in the organized way that I have done this year, working with a smaller group of children and having more conveniences in equipment. The class of this year, however, was composed of low-fifth-grade children instead of sixth.

When we began our study of the United States this year I told the class just what we were going to do after we had finished the subject. I described to them fully the plan of procedure, and told them that as a result of our study we should make a real map of the United States in soil, one large enough to show everything of importance that grows in our country and to indicate all the leading industries in some way.

From the first they had no trouble in picturing the map and were delighted with the plan. All the year they had wanted to give a play in connection with their Roman history and as I knew it would be impossible to work up the play and the map both, I was somewhat worried over the course I should take in persuading them to give up the play; but as soon as they understood the map project they voted unanimously to work that up instead of the play. This of course meant the centering of the geography work around this unit for the entire second semester of the year. Five thirty-minute periods a week were given to geography and during the last three weeks of the semester I allowed the children to take the study period each day, which was also thirty minutes, to work on the map.

From the beginning everything was done with reference to the map. We worked on the general shape, outline, and physical characteristics with the idea of modeling them in soil. The climate, highlands and lowlands, the location of the important rivers, and the Great Lakes were studied with interest because everyone in the room had to have a sufficient knowledge of these points to be able actually to help in the formation of a model of our country. After they had worked at their seats with relief and physical maps before them, and had taken part in general discussions of the physical characteristics, they went to the blackboard and drew the map of United States, showing the mountains and lowlands in relief. Drill in this was continued until the map was drawn from memory.

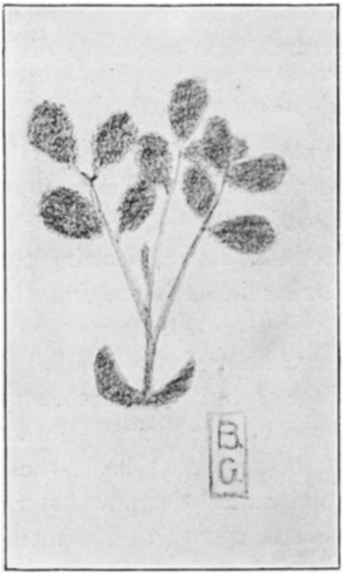
Next came a study of the different industries, special studies being made of the different regions of the United States where each industry is most fully developed. This work included a review of place geography.

We first took up agriculture and grazing. This included a study of cotton, tobacco, peanuts, sugar-cane, rice, corn, and wheat as the important crops. The study involved a detailed account of the conditions necessary for growth and all the stages from the planting to the manufactured product. Then specimens of grains and the finished product were examined; pictures were used showing the different processes of harvesting and manufacturing, and the children were encouraged to look up different topics at home or in the library at school and make reports on them. One little girl who used her father's new set of *Britannica* was one of the leaders in giving outside information. One of the boys, rather enviously, said, "Well, no wonder she knows so much about sugar-cane, she looks up everything at home." I asked, "Can't you look up things too?" The next day he came to school and proudly announced that he had been reading a lot about sugar-cane that Ellen hadn't told and wanted to give his report to the class. So the spirit of investigation grew through social emulation and natural interest in the products under discussion, and I am sure that eighth-grade children could not have gone at things with any better attitude of research than did these fifth-grade children when they wanted to find out about geographical facts with a definite purpose in mind. One child, who was on the Grazing Committee and had to place the tiny animals in the states where they belonged to show the great grazing-areas, brought to me one morning several pages of statistics which she had copied from the agricultural bulletin at home, showing the number of horses, cows, sheep, and mules in each state of the Union.

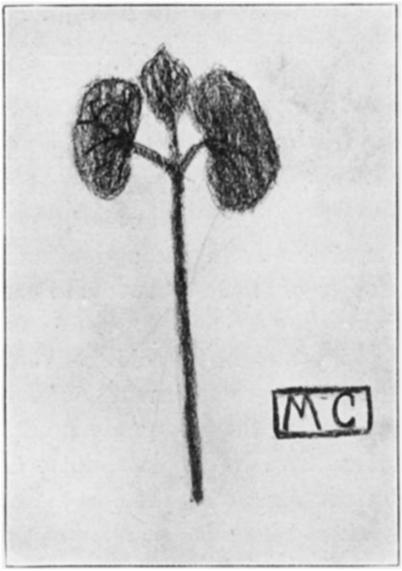
Why should not children of this age know facts definitely? They should get a correct knowledge of the resources of our country and I think the fifth grade is not too soon to give them this exact information. This does not mean that they must learn these statistics, but they should be able to understand them, and so be capable of judging the relative wealth of our country. The members of this class had a much clearer knowledge of the distribution of live stock in the different sections after hearing this report and helping to place the models where they belonged than if they had read monotonously in their geographies about grazing. It was knowledge put to a definite use immediately upon acquisition.

After the topics were read and discussed sufficiently, the children were given small maps of the United States and asked to color certain areas to show the greatest wheat-growing regions, corn regions, sugar-cane regions, etc. This was done to test their knowledge of the previous discussions, and, of course, with no assistance from maps or books. During this period of study I told them that when we were ready to make the real map certain committees would be appointed to show the different industries on the map, and that these committees must not only be able to work out the representations of their industries, but they must also be able to tell everything about each industry.

Various topics were used for the basis of composition work, and since the children were studying them with a definite purpose in mind, they wrote with the real interest that comes when there is something to say. At this time, when we were discussing the different agricultural products, the class planted several window-boxes with sugar-cane, cotton, peanuts, grapefruit, and lemons. These were studied and watched during their growth, drawings were made of them, and compositions were written about them. The following are types of compositions which were written by the class a few weeks after the window-boxes were planted. This was almost a month before the map was begun. The purpose of these compositions was to get from the children expressions concerning their observations of the growth of the plants, rather than stories of the industries involved.



PEANUTS



COTTON

DOROTHY May 1, 1914

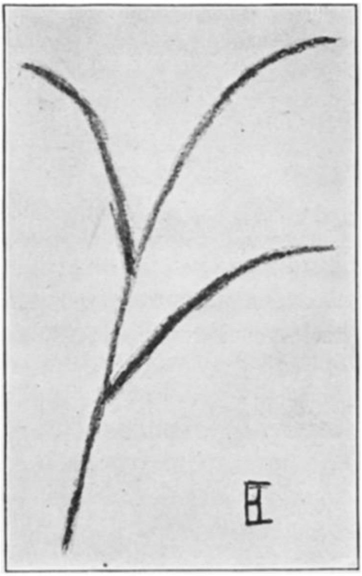
PEANUTS

Ronnoc and Norris planted peanuts on April 10, 1914. We will transplant them for our map around Virginia and the Carolina's. Today they are about 2½ inches high. An acre sometimes produces from twenty to one hundred bushels. Oil is sometimes made from the peanut. When they come up they open up in the middle. They were planted about one inch deep. Norfolk is the biggest port for shipping them.

ELIZABETH April 29, 1914

COTTON

Dorothy and Ellen planted the cotton for our soil map April 10, 1914. In about three weeks it has grown 2½ inches to 3¾ inches. It is grown mostly in Texas and around the Gulf States. Cotton is so important that if all the gold which is mined in one year from all over the world was stacked up in a pile and all the cotton that we ship to Europe in one year was stacked up beside it the cotton would be worth more than the gold.

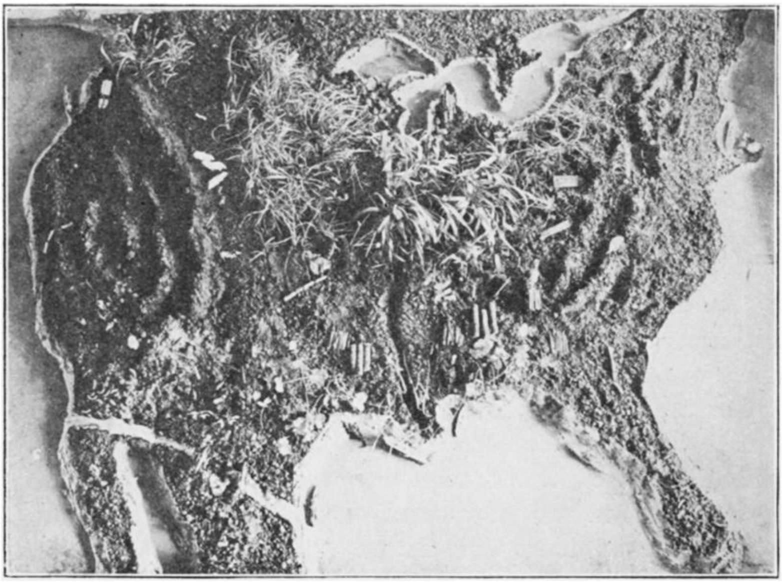


SORGHUM

We thought at first that we might have to transplant these window-box plants to the soil map, but as a matter of fact we were able to begin with all the crops from the seeds. Indeed, most of the plants grew so fast that we had to harvest and replant them three times in the three and a half weeks of the existence of the map. We had to use sorghum seed instead of the real sugar-cane, which was a great trial to the children, necessitating constant explanations and apologies when they were pointing out the sugar-cane region to visitors. The corn also was a source of regret to them because it insisted on growing so fast that most of the time it was higher than the mountains.

It was not possible to include everything on the map. We had ordered it made as large a size as could be accommodated in the schoolroom, but still many facts had to be indicated in relation to those industries which were really worked out. For instance, most of the big cities had to be located and discussed with reference to whatever industry was going on about them, as Minneapolis in the wheat region, and New Orleans in the cotton region.

Mining and manufacturing considered in relation to the map were taken up next. Different specimens of ores were brought by the children and exhibited; iron in the various stages of manufacture was brought from the museum, and pictures of mining camps and mining processes were studied. Carpenter's *Geographical Reader of North America* was used as a text for the whole study, and, as before, the children were asked to look up different topics and give to the class a report of what they had read. In indicating the industry on the soil map, iron ore was placed in Tennessee, Alabama, Georgia, Pennsylvania, and around Lake Superior; coal in the Appalachian Mountains, Indiana, and Illinois; gold in California and Colorado, and silver in Colorado and Utah.



The lumbering industry was one of the most absorbing topics studied. Two of the pupils whose fathers were engaged in that business each brought about fifteen specimens of wood. Of course they were able to supplement the study with many interesting facts told them by their fathers. These two pupils were placed on a committee to work out the lumber industry on the map. They placed groves of tiny pine trees to show the pine forests and had minute chips cut from their samples of wood which were labelled and set in the places where they were supposed to grow. Then they showed the lumber camps by placing in the North small sleds filled with little sticks cut just like lumber, and in the South little wagons of lumber drawn by horses. Although I made no conscious effort to have the pupils study very many of the different trees, it was surprising to see how quickly they learned to recognize these from the specimens brought. We had a map made indicating in different colors the various vegetation belts of the United States and where the important trees were found. This was hung on the wall where it could conveniently be seen by the children. They would examine the samples of wood which were marked with the names of the trees they represented, and they would go to the map to see where each tree grew; and as a result, when the woods were placed on the map every child in the room knew in what state each grew, and was eager to display this knowledge. It was not at all surprising that the lumbering industry was one of the favorite topics for composition work chosen by the class.

The study of commerce had to be taken up with the study of the industries. Small boats were brought and placed at points on the water to show the big shipping ports. Of course, in telling about these ports each one had to know why it was important. Several railroad lines were represented by toy trains—the Illinois Central, the New York Central, the Florida East Coast, and the Southern Pacific.

The fisheries along the New England and eastern coasts were studied, also the salmon industry on the northwestern coast. The different methods of fishing were discussed—the trawl, the seine, and the hand line. This industry was not as well indicated on the map as some of the others. A small basket of fish was set at Cape Cod to show the fishing along that coast.

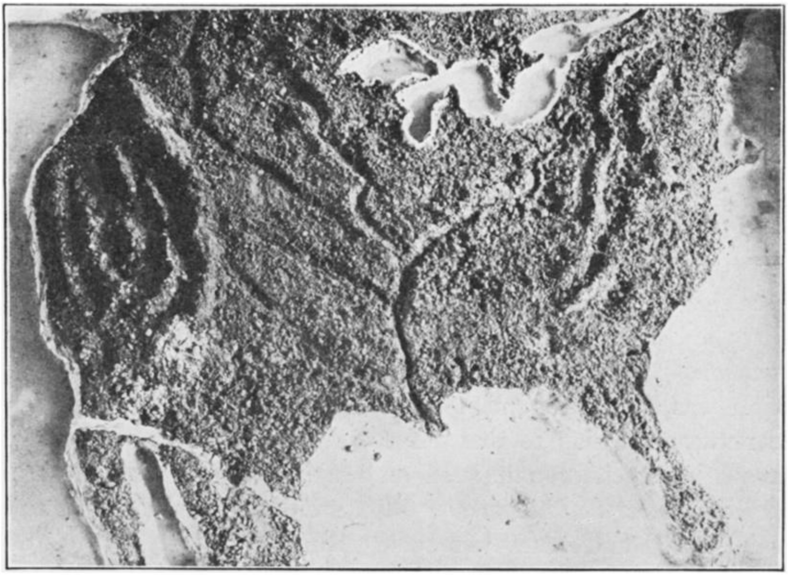
I have gone ahead of my point and in discussing the preparation of the map I have at times mentioned what we actually did after the study was finished. This has seemed necessary to get the connection between the study of the subject-matter and its application. When we had finished the investigating period of our study we were ready for the final result, which was the testing of the knowledge and ability of the pupils to put into practice what they had learned.

We decided to use for the map a zinc pan seven by five feet by six inches deep which we had made to order. It occupied the middle of the schoolroom, the children's desks being grouped around it. Needless to say, it was the center of attraction. In fact, from the time the map was first mentioned, life for the children seemed to be one series of exciting and eventful happenings. When the pan was brought into the room it was hard to act as if school were an ordinary affair; when the soil was carried in by the janitors and dumped into the pan every child in the room begged to be one of the first to begin work.

The first thing was to clear the dirt of all foreign particles and then to shape the country. This took three or four days. Everyone in the room was allowed to help. Some parts of the coast were extremely difficult to outline correctly. I allowed the children to work without help and then to compare what they had done with a map and to correct the errors. The Great Lakes caused them more trouble than any other thing, unless it was the New England coast; the former took at least ten trials. I looked for signs of discouragement and loss of interest, but none came; some child was always ready and eager to try where others had failed. They came to school at eight o'clock in the morning, were most unwilling to leave at recess or noon, and would not go home in the afternoon until I compelled them to do so by locking up the room.

When the shape was at last completed, clay was used to bank in the coasts and to form the basins for the Great Lakes. Of course water had to be put in the Pacific and Atlantic Oceans and the Great Lakes; this was one of the most important things to be done. In making the mountains the results of the careful map work were shown in getting the relative heights and directions. The Great Basin took some time. What was most pleasing was to see the attitude which the children took in regard to different questions which were discussed. It was no uncommon thing for one child to criticize some detail of another's work and then to secure a proof of his statement from some atlas or book.

Then I divided the class into sections or committees to work out the different industries. It was understood, however, that everyone in the room should contribute in any way he could to everything that was needed. The Agricultural Committee planted the crops: corn, wheat, cotton, tobacco, rice, grapefruit, oranges, lemons, and grass for the cattle to graze upon. The morning after the seeds were planted, almost every child in the room asked me the same question on entering: "Well, are they up yet?" They came up all too soon; in a week's time the corn was higher than the mountains, and had to be pulled up and replanted.



The tiny animals were brought and put in their appropriate places by the Grazing Committee. The stockyards were constructed to represent Chicago; there was an automobile for Detroit, and a basket of apples in New York to show the fruit district there; the lumber camps were set up; the arid regions of the West and Southwest were shown by the sandy stretches of country covered with cacti; the lofty mountains with their snow-covered summits (salt-covered) stood tall and imposing; the minerals were deposited; derricks were constructed showing oil deposits, and gas wells were shown by tall escapes of clay; bananas, grapefruit, and lemons were growing in Florida and California; boats were sailing on the Great Lakes and ocean steamers were leaving the big ports; even the tiny cannon were on the border pointing toward Mexico—the United States was a real country to the children and geography was the easiest of all subjects to teach.

It is unnecessary to say anything more about the interest aroused by the method of presentation. I had live children with whom to work, and I know the results obtained are permanent.

Another important outcome of this work was the spirit of investigation and research which it fostered: the children saw the necessity of careful study and of testing the results of that study. They had a reason for finding out facts and a real use to make of them.

It was a tragic moment when the time came for the janitor to remove the map so that the room could be used for summer school. The children insisted on keeping it in the room until the last minute. Finally everything was taken from the surface and the soil and water were being removed: there was a dead silence in the room save for the creaking of the pan and the shoveling of the dirt—it was a sad and serious moment. Suddenly the stillness was broken by a small voice whose owner had been very much interested in the Norse stories we had just finished: "Miss Storm, this is the twilight of the gods!"

Here are some compositions written about the various industries and the making of the map. All the written work presented is shown just as it was when handed in by the children. There has been no attempt to correct mistakes in spelling or punctuation. The children were allowed to look up the spelling of difficult words in their geographies, and in instances where words could not be found they were written on the blackboard.

5 B GEOGRAPHY

ELLEN June 3, 1914

GRAZING COMMITTEE

Our grade the 5 B class had studied the United States this year and we made a map of the United States in soil.

I was on the grazing committee and I looked up the states where the different animals were raised in a book of the Agricultural Bauea and found that Texas raised one million four hundred and thirteen swine. Illinois one million five hundred and ninty five horses. And Wyoming five million eight hundred and eighty five sheep.

I placed the little animals which were only one inch high in the states just named and learned them so I could explane it to visitors.

Some of the otheres childern helped me. Martha and Norris gave me some tiny animals which I also placed in the map.

5 B GEOGRAPHY

KENNETH U.E.S.

MINING

We made a soil map of the United States. I was on the mining committee and I put some iron in the Lake Superior reigon, in Sout Carolina and Pennsylvaina. I also put some gold in colorado and California. I put some coal in Pennysvania, Indiana, North and South Carolina, New York and Nebraska. I put some copper in the Kewahnee peninsula. I put some zink in Missouri also.

5 B GEOGRAPHY

WARREN University Elementary School

OUR SOIL MAP

We have been studying the United States in Geography and our teacher sugested that we make a soil map of the United States.

We had the janitors put the soil in a pan which we had made seven by five feet, and we started to model the map. We all helped to model it. When we got the shape the best we could we put clay in little strips around the shape so that the water when put in the oceans would not swamp the soil. We had a lot of trouble with Maine and the Great Lakes. Miss Storm did not help us but told us whether the shape was good or not. She told us the Great Lakes were not good. We tried again and again until we got the shape to suit us. Then we made the Apalachian mountains and the Rocky Mountains. Then we put salt on them to repersent snow. And then we put the water in the ocean and Great Lakes. We put the little trains to show the important railroad centers and boats to show the transportation all over the United States coast. New York is a great apple region so we put apples there. And fish on Cape Cod to repersent the fishing the fishing Industry. We also put cactus in Texas and Florida and Wherever it grows. We thought it would be best to have water in the Mississippi River so we put in clay. But we found it better not to have it so we put in silver paper.

NORRIS U.E.S.

LUMBERING IN OUR SOIL MAP

Our roum in Geography had been studying the United States. Our teacher promised us we could make a map of it in soil so we did. We had two or three pans but none were of good size. Finally we had a good zinc pan made. Then we modeled it and put in the different industries.

Elizabeth and I were on the lumber comittee She got some little pieces of lumber and so did I, I got some yellow pine and put it where it should be which is in Georga, Mississippi and Arkanses. I got some basswood, maple, aspen, chestnut, spruce, beech, Ash, Tamarock, birch, Oak and White and Northern pine. In the central states there are white, black and Red Oaks cherry, elms and hickory trees. In the south yellow pine, cypress, cedars, gums and Oak. In the west fir, balsom, spruce and western hemlock. I got a tiny wagon and put lumber in it and put it in washington to show the lumber there. I put a small sleigh in Michigan filled with lumber and a wagon in the south filled with yellow pine for the pine region and some yellow pine logs in the south.

ELIZABETH June 3, 1914

OUR SOIL MAP

Our grade the 5 B class has worked very hard in geography and at the end of school we made a soil map of the United States showing the different industries in these states. All most every one has brought and done something for it. We planted corn where most corn is raised in Illinois, Indiana, Iowa Nebraska and Kansas. We put the Wheat where most of it is raised in North and South Dakota and Minnesota. Then we planted cotton, sugar cane, tobacco and rice. We also planted some trees: orange, lemon and grapefruit trees. Beatrice made little bananas out of yellow clay and laid them in Florida and California We put cacti where they are found Norris brought a basket of apples and fish. We put but the apples in New York and the fish in Cape Cod to show the fishing industry. First the jainitor put a lot of soil in a little pan which was very much to little. We then had a lot of trouble in getting a large enough pan. At last we had one made which was 7 feet by 5 feet and 6 inches deep. We then modeled our map. We had a lot of trouble with Maine and the Great Lakes. We put salt on the mountains so as to make them look as if snow was on the top of them. We have the stockyards in Chicago and we put little ships to show where the most commerce is. We have little trains scattered over the United States they are the Florida East Coast, Illinois central and the northern Pacific railroads. There are little lumbering wagons and of course we have water in the two ocean and the Gulf of Mexico. We have little canons on the border to procted us from Mexico.

GRACE STORM

UNIVERSITY OF CHICAGO ELEMENTARY SCHOOL